

IN THE UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF MISSOURI
CENTRAL DIVISION

MARY THIERFELDER and)	
MELVIN C. THIERFELDER,)	
)	
Plaintiffs,)	
)	
v.)	Case No. 06-4084-CV-C-NKL
)	
VIRCO, INC.,)	
)	
Defendant.)	

ORDER

Plaintiff Mary Thierfelder (“Thierfelder”) and her husband, Melvin, bring this products liability action against Defendant Virco, Inc. (“Virco”), the manufacturer of a folding-chair cart which rolled over Thierfelder’s foot while she was working as a custodian. Pending before the Court is Virco’s Motion to Exclude the Expert Testimony of Bruce A. Preston and for Summary Judgment [Doc. # 44]. For the reasons set forth below, the Motion denied.

I. Factual Background

The facts of this case are fairly simple and, where in dispute, are viewed in a light most favorable to Thierfelder as the non-moving party.

Virco manufactures and sells a chair cart, a kind of mobile rack on which schools can hang folding chairs for easy movement and storage when not in use. The cart weighs about 800 pounds when fully loaded. In 1995, Virco sold three such carts to the

Smithton R-VI School (“Smithton”) where Plaintiff Thierfelder works as a custodian. Between 1995 and 2003, she estimates that she moved the chair cart about 80 times. On November 17, 2003, while Thierfelder was moving a loaded chair cart into the multipurpose room at Smithton, one of the cart’s casters rolled over her right foot. Although no bones were broken, Thierfelder sustained a type of lasting nerve damage called reflexive sympathetic dystrophy syndrome. Subsequently, she and her husband filed suit for products liability and loss of consortium.

In furtherance of their lawsuit against Virco, Thierfelder and her husband retained Bruce A. Preston (“Preston”), a mechanical engineer with over thirty years of experience in the furniture industry, to offer expert testimony on the design of the chair cart. Preston has been certified in the past as a quality engineer by the American Society for Quality, and is a registered professional engineer. He has been a member of the Business Institutional Furniture Manufacturers Association and served on its products liability committee. From 1966 to 1996, he was employed by Steelcase, Inc., the world’s largest manufacturer of office furniture, chairs and accessory equipment. Preston worked in the quality system at Steelcase until 1979, assisting in new product start-up, trouble shooting, field problems, installation, and inspection. He became the director of quality assurance in 1968, where his duties expanded to include products liability. In particular, he reviewed design sheets for various products to make sure they were safe. He was also the chairman of the safety review committee, which was charged with changing the design of furniture due to safety issues that arose through products liability lawsuits. On occasion,

products were retrofitted in the field due to safety concerns or some sort of warning would be added.

From 1986 to 1997, Preston was the manager of technical and legal services and was responsible for patent, trademark and technical agreement work for Steelcase. In that position, he supervised the testing laboratory, the modeling shop, product scheduling and computer-aided design. Among other products he worked on, Preston recommended changes in wheel placement on chairs and other furniture, primarily in the context of stability to keep the chairs from tipping. Wheels and their casters were the subject of design and testing on many Steelcase products including chairs, tables and desks. Steelcase does not design and manufacture folding chairs or folding chair carriers like the one involved in this case. Preston Depo. at 23:2-17. He has testified as an expert in two trials.

Preston conducted an inspection of the chair cart that injured Thierfelder in on January 19, 2006. He took photographs of the cart, reviewed the Virco catalog in which it was sold, examined the Virco engineering drawing and reviewed literature from other chair cart manufacturers. The Virco chair cart is made of tubular steel and has two swivel casters on one end and two fixed casters on the other end. The casters are 5" diameter wheels, fastened to the steel frame approximately 3" from the ends. The casters have no guards covering the wheels and the cart has no handles or push bars to assist in moving it. He watched a physical demonstration by Thierfelder of what she was doing when the incident occurred. He observed the chair cart being pulled across a tile floor and the

carpeted floor in the meeting room where the accident occurred. Preston took some force measurements with a gauge to determine that it takes 80 pounds of force to start the chair cart in motion and 70 pounds to continue the motion. He personally pushed and pulled the chair cart in question. Based on these studies and his experience in the furniture industry, Preston issued a Rule 26 report in which he found that the chair cart was defective in the following four ways:

- 1) The casters were located too close to the ends of the lower members allowing casters to roll over the feet of the service person[ne]l during normal and anticipated use.
- 2) There were no guards over the casters to prevent the casters from rolling over the feet of the service personnel.
- 3) There was no handle incorporated in the design to facilitate the moving of the chair truck without exposing the feet of the service personnel to the casters.
- 4) The warning label was inadequate in color and wording by not stating the hazard, how to avoid the hazard and the consequences in not avoiding the hazard of the casters rolling over the feet during use.

Preston Report at 2-3. According to his deposition, Preston came by these opinions by examining the subject chair cart, taking photographs of it, and making some measurements of its dimensions; watching a reenactment of the accident by Thierfelder; conducting a force test on the cart from the rear of the cart where the casters are fixed; looking through other companies' catalogs to find similar chair carts; and reviewing an American National Standards Institute ("ANSI") standard for warning labels. Preston did not conduct any tests other than the force test or perform any computer modeling, but

instead relied on his thirty years of experience designing and testing furniture, particularly chairs with wheels like those used on the Virco cart. During his deposition, he sketched a rough picture of caster guards proposed in his initial report and explained the utility of the handle he proposed and how it would attach to the carts. He also cited to the ANSI standard Z535.4-1991 which describes the details and color which should have been incorporated into the warning on the chair cart.

A. Preston's First Opinion

Based on Thierfelder's demonstration of the cart in use and his thirty years of experience in the furniture industry, Preston testified in deposition that the chair cart is defective because the casters are too close to the ends of the cart's lower members. As a result of this design, the casters are in a position that allow them to roll over the feet of service personnel during normal and anticipated use. According to Preston, the cart requires a person up front to steer it and put it in position, but it is not obvious to the person maneuvering the cart that their feet are in close proximity to the casters. To remove the defect, Preston recommends that the casters be moved backwards, or inward. He conceded that he did not make "any calculations or measurements to determine how far back to put the casters" on the chair cart frame, but his experience suggested that they should be moved backwards or inwards on the bar 2-3 inches. On further questioning, he admitted that he did not conduct any tests to determine whether moving the wheels would have any effect on being able to roll over bumps; but based on his experience engineering

wheelbases on other furniture over the past 30 years, he testified that neither would be affected.

B. Preston's Second Opinion

In addition to moving the wheels inward, Preston also suggested that “another solution regarding the casters would be to put some sort of physical guard around the casters or fender or whatever you want to call it, so that it would bump into the person’s foot and wouldn’t roll over it.” Preston Depo. at 88:1-5. He drew a picture of the guard he had in mind during his deposition, a curved metal plate that surrounds the caster. His proposed guard “would have to be close enough [to the floor] that it would bump a person’s foot and would not allow a caster to start to ride up on a foot,” and certainly less than an inch from the floor. *Id.* at 93:11-21. Defense counsel asked him whether he had conducted any computer modeling, testing, or anything along those lines to determine whether his drawing was a practical design. Preston answered, “No,” but his experience suggested that such guards would not affect mobility as long as it stopped one half inch above the ground and that such caster hoods were commonly used by other manufacturers to guard against injuries. He admitted that there would be some increase in cost.

C. Preston's Third Opinion

With regard to his third opinion, Preston testified that the cart “carrier did not have a supplementary handle that you could pull it, similar to a child’s wagon . . . where you have a bar or something that would stick down where your feet would [not] be anywhere

near the casters.” *Id.* at 96:5-11. As for recommending a design for such a handle,

Preston stated:

[M]y first thought was you would have some sort of a plate with a hole in it, for lack of a better term, down on the horizontal member. And then you would have a supplementary handle which would have some sort of a hook device that you would put through that hole to maneuver the cart. And then you probably have a little clip that you can store it on the end of the carrier, the vertical member of the carrier. But you wouldn’t need one for every cart. You could have one that could be furnished for one every so many carts or could be purchased.

Id. at 97:9-22. He did not test or model his proposed handle to determine its feasibility or its impact on the engineering of the cart, though he explained that the device would allow custodians to pull the cart from its base, where it was most stable, while standing at a safe distance in front of the cart. Such handles are common in children’s wagons and have been in use in other contexts for decades.

D. Preston’s Fourth Opinion

In his report, Preston stated that “The warning label was inadequate in color and wording by not stating the hazard, how to avoid the hazard and the consequences in not avoiding the hazard of the casters rolling over the feet during use.” Preston Report at 3. When defense counsel asked Preston in deposition “exactly what warning [he] thought ought to be on the” chair cart, Preston responded,

Well, No. 1, you would want to tell the person to use this handle, provided handle, to pull the cart. No. 2, you would have to say the consequences of not – not avoiding the hazard, in other words, it could roll over your foot. And No. 3 would be that it would cause an injury. You have to have the term injury in there.

Preston Depo. at 101:14-21. He admitted that he did not “make a formal draft of a label,” but he stated it should have been yellow with a black boarder (instead of white) and said it should comply with ANSI standards in terms of “shape and so forth . . . based on the level of the hazard.” *Id.* at 100:16-102:3. While working at Steelcase, Preston designed the language used on over thirty warning labels.

II. Expert Testimony

Virco moves first to exclude the opinions and testimony of Preston under Fed. R. Evid. 702, which provides as follows:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Rule 702 was amended to its current form in 2000 in response to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993). *Daubert* charged trial judges with acting as gatekeepers to exclude unreliable expert testimony. *Robinson v. GEICO Gen. Ins. Co.*, 447 F.3d 1096, 1100 (8th Cir. 2006)

In *Daubert*, the Supreme Court held that expert testimony must be based on a reliable and scientifically valid methodology that fits the facts of the case. 509 U.S. 579 (1993). Among the factors a court should consider in its gate-keeping function to allow or exclude expert testimony are (1) whether the methodology can and has been tested; (2) whether the technique has been subjected to peer review and publication; (3) the known

or potential rate of error of this methodology; and (4) whether the technique has been generally accepted in the proper scientific community. *Id.* at 593-94. *See also Jaurequi v. Carter Mfg. Co.*, 173 F.3d 1076, 1082 (8th Cir. 1999). The Supreme Court has subsequently held that the same standards of reliability announced in *Daubert* and codified in the revised Rule 702 apply equally to all expert testimony, whether based on scientific, technical, or other specialized knowledge. *See Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 148 (1999). The Eighth Circuit has further held that in determining reliability factors, the district court must customize its inquiry to fit the facts of each particular case:

Not every guidepost outlined in *Daubert* will necessarily apply to expert testimony based on engineering principles and practical experience, . . . the District Court's preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether the reasoning or methodology properly can be applied to the facts at issue is no less important.

Jaurequi, 173 F.3d at 1083 (internal quotations omitted). Moreover, Rule 702 reflects an attempt to liberalize the rules governing the admission of expert testimony. *Lauzon v. Senco Products, Inc.*, 270 F.3d 681, 686 (8th Cir. 2001). The rule clearly is one of admissibility rather than exclusion. *Id.* Case law shows that rejection of expert testimony is the exception rather than the rule. *Robinson v. GEICO Gen. Ins. Co.*, 447 F.3d 1096, 1101 (8th Cir. 2006). Decisions concerning the admission of expert testimony lie within the broad discretion of the trial court. *Anderson v. Raymond Corp.*, 340 F.3d 520, 523 (8th Cir. 2003).

In this case, the Thierfelders' engineering expert, Bruce A. Preston, has proffered four opinions to support the Plaintiffs' products liability claims. There is no dispute that Preston is a well-qualified engineer with over 30 years of experience in the furniture business. In particular, he has been involved in the design of wheels and the dimensions of wheelbases for various kinds of mobile furniture. The proposed design changes he has suggested in this case have been used by other manufacturers to avoid the kinds of injuries at issue here. He has also personally drafted dozens of warning labels identifying the type of danger involved when no design could render a product completely safe. The Court concludes his opinions meet the standards of *Daubert* and Rule 702 and are therefore admissible.

A. Cart Design

Virco argues that Preston's opinions about the cart's design, namely the location of its wheels, the lack of caster guards, and the absence of a handle, are speculative and improper because he did not conduct any computer modeling in support of his proposed changes and did not perform any calculations for determining where to put the casters or how far down the guards should come. Virco suggests that Preston has done little more than pontificate about allegedly defective designs and possible solutions to the problems. *See Jaurequi v. Carter Mfg. Co.*, 173 F.3d 1076 (8th Cir. 1999). In *Jaurequai*, the Eighth Circuit addressed proposed expert testimony suggesting that an "awareness barrier" on a corn head attachment to a combine would have protected the plaintiff from injury. *Id.* at

1080. Affirming the district court's exclusion of the testimony, the Court of Appeals explained that

[The expert] has not attempted to construct or even draw the suggested device, much less test its utility as a safety device or its compatibility with the corn head's proper function. Nor has he pointed to any manufacturer that incorporates awareness barriers into corn heads or similar farming machinery. In short, he has provided no basis for us to believe that his opinions are anything more than unabashed speculation.

Id. at 1084. In that case, however, the proffered expert admitted

that he had never observed the corn head at issue while it was running and that he had never seen any corn head in operation except from the roadside during his various trips through the Illinois countryside. When asked for the basis of his opinion that the gathering hooks are invisible when they emerge from under the snout, [the expert] stated, "I guess as an engineer, I know what it looks like in the running mode."

Id. at 1080.

By contrast, Preston observed the Virco cart in operation, took force measurements, and watched a reenactment of the accident resulting in Thierfelder's injury. Unlike the expert in *Jaurequi*, Preston has 30 years of experience in furniture design safety and has adjusted the wheelbase on chairs and other mobile furniture. He drew a picture of the type of caster guard that he suggested would have prevented Thierfelder's injuries, and noted that other manufacturers use similar guards to protect feet from being run over by furniture wheels. Far from mere *ipse dixit* opinion, Preston's testimony reflects years of design experience and his suggested improvements have already been implemented in other furniture. Thus, the present case has more in common with *Daniels v. Farmers Elevator & Exch. Co.*, in which the court overruled a *Daubert*

challenge to the expert testimony of an engineer in a products liability case involving an auger. 2006 U.S. Dist. LEXIS 65164 (E.D. Mo. 2006). In that case, the expert based his opinions on photographs and inspections of the auger. He was able to explain in detail in his deposition how an auger worked, how dangerous it would be without a guard, and how the plaintiff's hand was drawn into the auger and how he was harmed. The court concluded that his opinions were based on reliable principles and methods. *Id.* at *30-31.

Similarly, Preston explained in deposition how the guards he proposed would prevent roll-over damage to a person's foot, how moving the casters inward would make them less likely to contact feet, and how pulling the cart with a handle would keep the custodian's feet away from the danger zone altogether. The Court concludes that Preston's opinions are based years of experience and reliable principles. His opinions on the location of the wheels and the need for caster guards and a handle for the cart are admissible expert testimony under Rule 702.

B. Warning Label

The chair cart was equipped with a white "notice" near the base of the cart which stated that "Furniture should not be used other than for its intended purpose." It does not warn of potential foot hazard or indicate how the cart should be used. In deposition, Preston expanded on his Rule 26 report by stating that any warning should have been yellow with a black border instead of white, that it should have indicated the potential for injury by rolling over someone's foot, and that it should have included instructions on proper use—including the implementation of the handle he suggested—to avoid the roll-

over danger. His opinions were based on industry standards with which he is very familiar, having personally drafted over 30 warnings for Steelcase products. He also consulted the ANSI standard for warnings. Although he did not formally draft an alternative warning, he testified as to what information should have been included to comport with the ANSI standards.

Unlike the expert whose testimony was excluded in *Jaurequi*, Preston had read the actual warning as it existed on the original product and specifically noted what elements were missing from it. *Cf. Jaurequi*, 173 F.3d at 1084 (“[One of the experts] admitted that he had never even read the warnings which [the manufacturer] did employ . . . and that he was unaware of their content [And] neither [expert] pointed in their deposition testimony to other manufacturers of farm machinery who were employing chevrons or pictorial warnings in 1974.”). Having drafted multiple warnings about the danger posed by furniture himself in his 30 years of experience as a design and safety engineer with Steelcase, Preston’s opinion about the warning is reliable expert testimony under the *Daubert*.

Virco cites a Seventh Circuit opinion in which that Court of Appeals held that “failure to even draft a proposed alternative warning . . . renders [the expert’s] opinion regarding the alleged inadequacy of [the] existing warning . . . unreliable.” *Bourelle v. Crown Equip. Corp.*, 220 F.3d 532, 539 (7th Cir. 2000) (citing *Jaurequi v. Carter Mfg. Co., Inc.*, 173 F.3d 1076, 1084 (8th Cir. 1999)). However, as the Seventh Circuit went on to explain, “experts’ work is admissible only to the extent it is reasoned, uses the methods

of the discipline, and is founded on data. Talking off the cuff--deploying neither data nor analysis--is not acceptable methodology.” *Id.* In the present case, Preston was not talking “off the cuff” but rather contrasting the existing “Notice” on the cart with the ANSI standard and dozens of warnings he has previously drafted for other furniture himself. His opinion noted the three necessary elements missing from the Virco cart’s warning: the identity of the hazard, the means to avoid it, and the consequences for not doing so. The Court concludes that his opinion is based on sound principles and reliable experience and is therefore admissible under *Daubert* and Rule 702.

III. Summary Judgment

The Thierfelders’ Complaint raises three Counts for Strict Liability (Count I), Negligence (Count II), and Loss of Consortium (Count III). The only elements of the Strict Liability, Failure to Warn (both in Count I), and Negligence claims challenged in Virco’s Motion for Summary Judgment are the design of the cart and the warning. At the very least, Preston’s expert testimony raises disputed issues of fact as to whether the cart was defectively designed, had a sufficient warning, and whether Virco’s conduct in designing the cart was reasonable. Because there remain genuine disputes as to material fact on Counts I and II (and by extension the derivative action in Count III), Virco has not shown that it is entitled to judgment as a matter of law. Summary Judgment must therefore be denied.

IV. Conclusion

Accordingly, it is hereby

ORDERED that Defendant Virco, Inc.'s Motion to Exclude the Expert Testimony of Bruce A. Preston and for Summary Judgment [Doc. # 44] is DENIED.

s/ NANETTE K. LAUGHREY
NANETTE K. LAUGHREY
United States District Judge

Dated: June 26, 2007
Jefferson City, Missouri